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Claims

1. A flow-control method for data traffic transmitted through Synchronous Digital Hierarchy (SDH) network, wherein comprises
5 the following steps:

A. During data transmission through SDH network, the encapsulating part of Ethernet over SDH/SONET (EoS) device creating and encapsulating LFP (Line Flow-Control Protocol) frames according to the utilization condition of the frame cache;

10 B. Said LFP frames being mapped to SDH payload as common data frames and transferred to the opposite device;

C. Said opposite device demapping the SDH payload, and the decapsulating part of the EoS processing device identifying said LFP frames and phrasing and executing flow control information
15 in the LFP frames.

2. A flow-control method for data traffic transmitted through SDH network according to claim 1, wherein said step of creating and encapsulating LFP frames further comprises the following steps:

20 A1. In the uplink direction of said EoS device, the encapsulating part of EoS processing device keeping on monitoring the data volume in the cache and creating LFP frames with corresponding control field; if the data volume exceeds the upper threshold, said encapsulating part periodically sending LFP
25 frames, the control field of which controls to stop sending; if the data volume is lower than the lower threshold, said encapsulating part periodically sending LFP frames, the control field of which controls to start sending; if the data volume is between the lower threshold and the upper threshold, said

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encapsulating part stops sending LFP frames;

A2. Said LFP frames being inserted in the head of the data queue to be encapsulated and being given the priority to encapsulate; if no Ethernet frames are being encapsulated, said
5 LFP frames being encapsulated immediately; otherwise they being encapsulated immediately after the current Ethernet frames are encapsulated.

3. A flow-control method for data traffic transmitted through SDH network according to claim 1 or 2, wherein the carrier of LFP
10 frames are configured as standard PAUSE frame structure defined by 802.3x.

4. A flow-control method for data traffic transmitted through SDH network according to claim 2, wherein if the data volume in the cache in said step A1 exceeds the upper threshold, the
15 encapsulating part of EoS device will periodically send LFP frames with the control field 0x0FFFFH; if the data volume is lower than the lower threshold, the encapsulating part of EoS device will periodically send LFP frames with the control field 0x0H; said control field is controlled in a Xon/Xoff control way.

20 5. A flow-control method for data traffic transmitted through SDH network according to claim 1, wherein said decapsulating part processes said LFP frames in a LFP frame regeneration pattern:

if the control field in said LFP frames is LFP disabled, the encapsulating part will stop working, and the data from the
25 Ethernet access part will stack up at the encapsulating part and cause the user device to stop sending Ethernet frames with LFP frames;

if the control field in said LFP frame is LFP enabled, the encapsulating part will work normally to encapsulate the Ethernet

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frames from the Ethernet access part and forward them to the mapping part.

6. A flow-control method for data traffic transmitted through SDH network according to claim 1, wherein LFP transparent pattern
5 is used when said decapsulating part identifies the LFP frames and processes it; said decapsulating part explains and executes said LFP frames according to whether the user data device attached to it supports full duplex;

10 if the user data device attached to the EoS device works in full duplex mode, it is unnecessary to phrase the LFP frames, instead, the LFP frames will be sent to the user data device directly;

If the user data device attached to the EoS device works in half duplex mode, the control field of the LFP frames should be
15 phrased, i.e., if it is START, the back pressure control signal will be canceled; otherwise the back pressure control signal will be sent to make the user devices attached to EoS device detect a conflict and thus stop transmitting data.

7. A flow-control method for data traffic transmitted through
20 SDH network according to claim 5 or 6, wherein when the user data devices attached to the EoS device stops sending data to the EoS device, the data volume in the cache of opposite EoS device will be reduced gradually; when it reaches to the lower threshold, the opposite decapsulating part generates LFP frames with the control
25 field which controls to start sending; said LFP frames are given the priority to send to the decapsulating part of the current end to phrase and execute so as to make the user data device attached to the current EoS send data again.